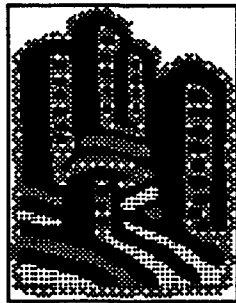


Urban Agriculture Research in
West Africa: Record,
Capacities and Opportunities

by
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URBAN AGRICULTURE RESEARCH IN West Africa: RECORD, CAPACITIES AND OPPORTUNITIES

INTRODUCTION

Urban Agriculture (UA) in West Africa has been the subject of several publications, more or less closely linked to systematic research programs. However, they contain very few definitions of the many concepts used to define the areas and activities involved.

With regard to the areas, some authors only consider urban strips and inner courtyard plots, while others also include larger peripheral urban areas, i.e. border locations. Clearly, the separation between town and country is not always clear in the peripheral sections of the town.

The scale of activities also varies, from family kitchen gardens and classical market gardens to agricultural activities like those generally performed in rural areas during the normal rainy seasons (basic grains such as millet, corn, etc.) and animal husbandry. Contrary to Central or South-Western Africa, there are few studies dealing with animal husbandry in West Africa.

These differences in defining the subject are often the result of the specificity and, above all, the scale in which the problems are perceived and posed at the national level. This diversified perception always appears in the form of a duality, mainly in the context of formal/informal, legal/illegal economic activities, stressing aspects of employment/unemployment, survival strategy/rural-urban poverty, etc..

Approaches to the problems are many and varied, but in-depth and comparative research on all the aspects is rare, and the social perspective remains dominant.

1. REGIONAL RESEARCH RECORD: STRENGTHS AND WEAKNESSES

1.1. Aspects and objectives best researched

Generally, most research attempts to establish correlations (by intuition in some cases) between several aspects in the history of the country's economic development, urbanization trends and the appearance of UA. In fact, this type of reasoning is applicable to all the survival strategies noted during the postcolonial period in developing countries, particularly in Africa: rural exodus, the appearance of shanty towns, extensive growth of the informal sector in different areas of activity, etc.. This removes any specificity in the analysis of UA.

- a) Links between the increasing impoverishment of the country, rapid urbanization, rural exodus, and urban agriculture:**

Various reasons are, for many authors, the more or less immediate source of the appearance of UA. These reasons include the international macroeconomic environment which, for several years, has been unfavorable to developing countries, particularly through the price fall of agricultural export products in essentially agrarian economies, as well as climactic factors. Urbanization and rural exodus constitute two sides of the same coin in this chain of poverty. UA is therefore a survival system for social groups threatened by economic conditions (low income level in urban areas; seasonal migration of rural inhabitants progressively turning into permanent migrants).

The objective aimed for in using the above aspects is very often found in a social perspective: improvement in the assimilation and survival of these social groups in the urban environment, a better understanding of the role they play or could be made to play in the larger framework of urban management.

- b) Links between the decline in local food production, changes in urban lifestyle, unemployment and urban agriculture.**

In addition to the above-mentioned survival strategy, some authors emphasize the adaptation of UA to certain characteristics of urban life in transition: a break between rural production and urban consumption, marked by the need to supply less expensive European-type market products (green beans, green peppers, tomatoes, etc.). Thus Bamako, capital of Mali, would be self-sufficient in vegetables because of urban market

gardeners [7]. The same applies to essential provisions for the city of Lome, where competition of other origins exists: neighboring villages, importation of specific products from Burkina Faso, Niger, Mali, and Europe. UA would then be generating income and employment in an urban environment through a network of interdependent activities connected to it. These peripheral activities are found in the artisan production sector (blacksmiths, masons, carpenters, etc.), as well as in the services (transportation of fertilizers, phytosanitary products and seeds, repair of motor pumps, etc.) and marketing sectors [8].

This aspect of the problem makes it possible to approach an important objective for most research, namely to find the main actors in the area of production as well as their socioeconomic characteristics (origin, other activities, income and spending, sociological, economic and cultural organization). In brief, the researcher must often reconstruct manpower training methods and the rationality behind its continuity.

c) Impact of urban agriculture on the quality of nutrition among marginal groups:

Implicitly, but also made obvious through research, marginal groups are predominant in UA. A possible positive aspect of this supposed implication would be the improvement of nutritional conditions in this environment. Even if this idea is attractive, however, it is not well supported by prior and subsequent data on the situation of the people involved. It should also be mentioned that the initial work on UA was done mainly by geographers and urban managers whose main interests differed from those of the nutritionists.

d) Status of areas and activities.

UA is developed in areas that, generally, have a precarious status and whose development or distribution in the town often depends on the unilateral ideas of municipal authorities or specific urban management institutions. Land under the authority of these legal institutions is used without formal authority but with a varying tolerance which is not always backed by rationality. Thus, the market gardens that have long been tolerated in Bamako, incited some people to grow grains (millet, corn, etc.) on interstitial strips in the towns with successful results. From 1989, the authorities prohibited this practice, since the high stalks created a bush which served as refuge to thieves [3]. The most often cited example in this context is Bafoussan in Cameroon, where the mayor arranged for the corn to be cut in order to clean up the town during the Seventies [2].

Land is very often free in the interstitial areas. However, often complex rental systems have been developed through the succession of occupants or the informal involvement of administrations in the activity. Leasing is also common between land owners and producers (Lome, Lagos) [1, 8]. In the latter case, the profitability of using this land for housing projects —not at all comparable to the profitability of UA— determines the risk of the activity.

The status of the activity varies, in contradiction to a premature classification in the informal sector which, nevertheless, remains the most current. In fact, in Zaire, the government has promoted it to an official project, supported by outside funding which has made it possible to subsidize water and drainage access for a certain period of time [16]. In Nigeria, the government has considered UA so important, that it has made all inputs tax-exempt (fertilizers, seedlings, etc.) [1]. For the majority, however, UA is simply an activity that is tolerated.

e) Water access and sanitary problems:

Water is essential for UA. For this activity, often considered on the borderline of profitability, access to low-cost quality water in the city raises enormous difficulties. The use of traditional wells is current practice in many towns located far from a river. Lacking a simple solution, some stopgap measures like using polluted water, expose the producer as well as the consumer to potential danger. One could mention, as an example, the use of wastewater to irrigate crops in Cambérène and Yoff (Dakar/Senegal) [10] as well as in some areas of Lome [8].

f) Competition and/or synergy of urban agriculture with other aspects of Urban Management:

Housing development, the cleanup and use of urban waste, the beautification of the city and many other aspects of urban management may be in conflict with or complementary to UA. Much research emphasizes the complementarity, particularly in the treatment of solid waste [4, 5, 10, 14, 15, 18].

1.2. Aspects deserving in-depth research:

a) Assessment and overview of urban agriculture:

Some systematic research has been conducted on UA to define several aspects simultaneously; for example, agronomic and socioeconomic aspects [8], the development of prices, markets and financial profitability [1, 21, 22]. However, such works are rare and fail to cover this aspect of the problem sufficiently.

Certain authors have discussed whether there is a need for the government to pay interest to the role of UA in a global agricultural policy, and to planning perspectives [23]. However, the studies generally pose the same problems as those of any other informal activity, and suggest the same policies to solve them. UA is, consequently, perceived as a perverted effect of bad development, and could not have a specific solution outside of macroeconomic considerations.

UA is also presented as a "glorification" of the ruralization of Third World towns, contrary to searching for a modernization of the countryside. The major contradiction here is easily seen: considering other alternatives (imperative) for developing rural areas, what are the real opportunity costs of a policy for increasing UA (presupposing the absence of physical constraints)?

This partly global debate clearly poses the question of the interest and limits of UA in the organization of urban areas. All the perspectives should take the following aspects into account:

b) Environmental impact of urban agriculture:

This topic remains to be explored. A few leads can be mentioned. In fact, small cultivated areas (generally less than 1 ha) could involve the very intensive use of fertilizers by a work force that has little or no qualifications or training. Underground and surface water could be affected. The same applies to products. UA can also carry positive environmental aspects. One could quote Zaire authorities who estimate "that it has contributed to preventing soil erosion and even landslides in Kinshasa" [20].

c) Technology used:

It should be noted that UA everywhere uses rudimentary technology, similar to that of subsistence agriculture. By this fact, it perpetuates the production methods which set a negative example for the areas where migrations towards the city originated. In addition, the precariousness of the status of the areas and of the institutional nature of the activity, as well as the results expected from such small areas are not conducive to investments in high-performance technology. This dilemma should also be the subject of thorough study.

d) Lessons to be learnt from developed countries, and from Asian and Latin American countries:

A study of the history of developed nations and of countries where the transition is at a more or less advanced stage in relation to Africa, is to be recommended. Research conducted on UA with comparative historical references could indicate some leads and avoid time loss with regard to methodology and content. Initiatives taken at certain points in the evolution of societies familiar with the phenomenon of UA before Africa must be analyzed in the context of current realities.

2. APPRAISAL OF RESEARCH CAPACITY

Our documentation shows the existence of a major research capacity in West Africa. However, it is less certain that it can be summarily assessed without an update of the personnel currently available in several centres, some of whom may have experienced more or less significant changes.

We are, therefore, suggesting a preliminary list without giving any particular indications as regards the expertise. We are basing it on more or less recent experience and renown at a national or international level.

2.1. Agronomic research centres

Although generally focusing on agriculture outside urban centres, agronomic research centres, linked to the departments of agriculture of various countries and often with major outside collaboration (notably with ORSTOM, a French agency), have a good

reputation as experienced institutions. This is the case with ISRA in Senegal, the "Commission de la Recherche Agronomique" in Mali, INRA in Niger, and equivalent centres in Burkina Faso, Guinea, etc.. Intergovernmental agencies, such as the Centre AGRHIMET of Niamey, Niger, should be added to the list. We know less of their involvement with the URB Program's concerns. The participation of the Mali ministry of rural development in the study of the development of a market garden belt around the town of Bamako (December 1981) should, however, be emphasized. It is therefore likely that a similar study, i.e. an update of the situation in this area, could be of interest to them.

2.2. Market garden research centres

Not all the countries in the subregion have this institution. It is probable, however, that such an agency would be very useful at a strictly national level. This is the case of the Cambérène research centre in Dakar, Senegal, whose role has been recognized in the quality improvement of simple market garden produce (short cycle) as well as of the orchards (long cycle) which increasingly supply the fruit consumed in the Senegalese capital. It would be advisable to investigate whether such agencies exist and which of their institutional strengths and weaknesses would be of interest to the proposed research.

2.3. Nongovernmental organizations (NGOs)

There are many NGOs in the region whose primary concern is market gardening in rural areas. The opening of this activity in urban areas came before the proliferation of NGOs, and the approaches are completely opposed in their respective orientations. In urban areas, the activity is identified more as a small business while, in the rural zone, it is introduced and sustained at length among the population by the NGOs as a diversifying process of seasonal activities and nutritional improvement. However, the NGOs remain an excellent source of human skills for conducting research on the URB Program's theme. We would suggest that a list be established of NGO associations through a brief national survey.

ENDA Tiers Monde has long experience in urban management through several of its teams, and it could offer valuable contributions to this research program. The organization also has several partners in the subregion, who could prove useful (Benin, Mali, Niger, Togo, Guinea, Ivory Coast, etc.).

The time available for this brief summary unfortunately does not allow for more recent data collection on these institutions, particularly their partners at the local, national or regional levels.

3. FUTURE RESEARCH OPPORTUNITIES

The following two research ideas are mainly taken from the paragraph on topics to be the subject of thorough study.

3.1. Assessment of urban agriculture in some countries of the subregion:

Any proposal for a short-, medium- or long-term policy in the area of UA requires an explanation of the current function of this activity from the economic, social, cultural, etc. viewpoint, resorting to quantitative and qualitative data, actors, game rules (explicit or implicit). The capital of the country will be mostly affected by this research. The objective is to provide an informed opinion to the decision maker on the exact role that UA plays and could play in the economic and social policy of the country. The expected results must indicate when, how and where to encourage or discourage UA. Beneficiaries will be all the above-mentioned social categories involved in UA. Authorities will also benefit from explanations of the status of the land and the formalizing of relationships between producers and the government.

3.2. Environmental impact of urban agriculture:

Two phenomena will be increasingly combined in UA: the intensification of cultivation in small areas and, as a corollary, the use of various fertilizers, some of them chemical, and the difficulty of obtaining clean water for irrigation, particularly in urban strips. Environmental problems can then occur, and some research in this area would be useful. However, agriculture can provide opportunities for the urban environment: recycling of waste, undefined spaces developed and made green through this activity, etc.. At the same time, the results of this research will be applicable to urban public health, particularly of groups involved in UA, as well as to the decision makers for urban planning.

REFERENCES

- Gefu, Jerome O., Per-Time Farming as an Urban Survival Strategy: A Nigerian Case Study. In *The Rural-Urban Interface in Africa*, The Scandinavian Institute of African Studies.
- Centre Technique de Coopération Agricole-CEE/ACP, *Agriculteur en ville: un métier d'avenir*. In *SPORE, Bulletin bimestriel du Centre Technique de Coopération Agricole et Rurale*, Pays Bas.
- Kiabou, Bamaba (1991), Le mil, facteur d'insécurité? Les paysans de Bamako menacés d'exode urbain. In *Bulletin* No. 358, December, ISSN.
- Bulletin d'échange d'informations sur l'Agriculture Régénératrice* (1992), Recyclage des déchets urbains, du Sénégal au Bénin. Vol. 5, No. 1, April.
- Massey, Ruth (1991), Bénin: des ordures aux potagers. In *Forum du Développement*, July-August.
- Gutman, Pablo, *Urban Agriculture: the potential and limitations of the urban self-reliance strategy*. Centre of Urban & Regional Studies, BA, Argentina.
- Ministère du Développement Rural (Mali) and Ministère de la Coopération française, *Etude sur le développement de la ceinture maraîchère de Bamako* (Mission Report, December (?)).
- Schiller, Christine, *L'au à Lomé: approches agronomique et socio-économique*. Karthala, France.
- Streiffeler, Friedhelm (1987), Improving urban agriculture in Africa: a social perspective. In *Food & Nutrition Bulletin*, Vol. 9, No. 2.
- THIAW, Simon Annaby (1985), *Petit élevage et cultures intersticielles en milieu infra-urbain; quelques aspects à Dakar*, ENDA/UNU.

- Naciri, Mohamed (1977), *Principaux traits de l'urbanisation en Afrique*. ENDA.
- Mbassi, Elong (1977), *L'aménagement des quartiers populaires des grandes villes d'Afrique*
Noire: Problématique et principes d'action. ENDA.
- Sachs, I. (1985), *The food-energy nexus and the urban deprived*. ENDA/UNU.
- Diallo, S; Coulibaly, Y. (1987), *Les déchets urbains en milieu démuni à Bamako*. ENDA/UNU.
- Ba, B. (1987), *Alimentation-énergie en milieu urbain démuni à Dakar*. ENDA/UNU.
- Tricaud, P. M. (1987), *Urban agriculture in Ibadan and Freetown*. UNU.
- Chastel, J. M. (1982), *Etude des systèmes de production dans la zone maraîchère des Niayes de Lompoul (Gde Côte du Sénégal)*.
- Fond. F. Ebert-Thiès. (1983), *Rapport final des journées d'études inter-régionales des coopératives maraîchers et fruitières*. June.
- Ministère du développement rural (1984), *Programme de la journée des périmètres maraîchers de Kirène, Baobab et S1-bis*. Senegal.
- Richard, J. et al, (1985) *La place du maraîchage dans l'approvisionnement alimentaire de Kinshasa*. ENDA/UNU.
- Drakakis-Smith, David, *Strategies for meeting basic food needs in Harare*. In *The Rural-Urban Interface in Africa*. The Scandinavian Institute of African Studies.
- Mlozi. M. R. S. et al., *Urban agriculture as a survival strategy in Tanzania*. In *The Rural-Urban Interface in Africa*. The Scandinavian Institute of African Studies.
- Bibangambali, Jessy R., *Macro-level constraints and the growth of the informal sector in Uganda*. In *The Rural-Urban Interface in Africa*. The Scandinavian Institute of African Studies.